

WHAT IS CLAIMED IS:

5 1. An organic tissue anchor comprising a rigid, biocompatible, elongate member having a diameter of from about 0.4 millimeters to about 3 millimeters comprising surgical-grade titanium or stainless steel wire or a bioabsorbable material which forms an open, helical structure having a length from about 3 millimeters to about 75 millimeters, an outer diameter of a constant dimension of from about 1.5 millimeters to about 15 millimeters, a slope from about .5 to about 10 turns per centimeter and having at a first end an insertion tip and at a second end an attachment head which is capable of connecting organic tissue to said anchor and which comprises a crossbar having an eyelet for receiving a suture.

15 2. An anchor according to Claim 1, wherein the anchor is from about 2 to about 20 millimeters in length.

20 3. An anchor according to Claim 2, wherein the elongate member has a diameter of from about 0.5 to about 2 millimeters and a length of from about 4 to about 18 millimeters.

25 4. An anchor according to Claim 3, wherein the elongate member has a diameter of from about 1 to about 2 millimeters and a length of from about 8 to about 15 millimeters.

30 5. An anchor according to Claim 1, wherein said attachment head is a modular head which cooperates with said open helical structure.

6. An anchor according to Claim 5, wherein said modular head includes an internal hex.

7. An anchor according to Claim 3, wherein the helix achieves from about 0.5 to about 20 complete 360° revolutions.

5 8. An anchor according to Claim 7, wherein the anchor achieves from about 1 to about 4 revolutions.

10 9. An anchor according to Claim 2, wherein the overall outer diameter of the helix is from about 1.5 to about 11 millimeters.

10. An anchor according to Claim 1, wherein the attachment head is cannulated.

15 11. A method of securing tissue comprising:
accessing a surgical site including a tissue anchoring site in bone;

20 implanting an anchor comprising an open, rigid, biocompatible helix into said site, said helix being formed from an elongate member having a circular cross-section with a diameter of from about 0.2 to about 5 millimeters, and said helix having a length of from about 2 to about 75 millimeters, a slope from about 5 to about 10 turns per centimeter, and an outer diameter of from
25 about 1.5 to about 11 millimeters; and

attaching a tissue to said anchor.

30 12. A method according to Claim 11, wherein said step of attaching comprises suturing said tissue to said anchor.

35 13. A method according to Claim 11, including a step of making a pilot hole which is about the diameter of the elongate member in the bone prior to the insertion of the anchor in the bone.

14. A method according to Claim 12, wherein said attaching step comprises suturing a ligament or tendon to said anchor.

5 15. A method of buttressing bone comprising the steps of:

accessing a surgical site including at least a first cortical bone surface aligning a plate having an aperture on said first cortical surface; and

10 implanting at least one anchor through said plate aperture into at least said first cortical surface, said anchor comprising an open helix having a length of from about 5 to about 75 millimeters, a slope of from about 0.5 to about 10 turns per centimeter, and said helix being formed from an elongate member having a circular cross-section having a diameter of from about 0.2 to about 5 millimeters, said helix having a constant outer diameter, said helix further having at a first end an insertion tip and at a second end a head capable of applying a compressive force in the direction of the first end.

15 16. A bone anchor comprising a rigid, biocompatible, elongate member comprising a wire having a regular, solid cross-section with a diameter of from about 1.0 millimeter to about 2 millimeters which forms an open, helical structure having a length from about 3 millimeters to about 75 millimeters, an outer diameter of a constant dimension of from about 3 millimeters to about 9 millimeters, a slope from about .5 to about 4 turns per centimeter, and an aspect ratio of about 3 to about 5, said anchor having at a first end a bone insertion tip, and at a second end an attachment head having means for connecting organic tissue to said anchor, said attachment head being one piece with said helical structure, and said head having substantially the same outer diameter as said helix.

17. A bone anchor as set forth in Claim 16, wherein said attachment head is welded directly to said helical structure.

5 18. A method of buttressing bone comprising the steps of:

accessing a surgical site including at least a first cortical bone surface;

10 implanting at least one anchor into at least said first cortical surface, said anchor comprising an open helix having a length of from about 5 to about 75 millimeters, a slope of from about 0.5 to about 10 turns per centimeter, and said helix being formed from an elongate member having a circular cross-section having a
15 diameter of from about 0.2 to about 5 millimeters, said helix having a constant outer diameter, said helix further having at a first end an insertion tip and at a second end a head capable of applying a compressive force in the direction of the first end and wherein said head is
20 cannulated, and further including the steps of using a guide wire to achieve initial bone alignment and subsequently implanting said anchor about said guide wire by means of said cannulation.

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